METHOD OF AUTOMATICALLY QUALIFYING A SIGNAL REPRODUCTION DEVICE FOR INSTALLATION OF MONITORING EQUIPMENT

FIELD OF THE INVENTION

This invention relates to monitoring usage of signal reproduction devices, such as television receivers, video monitors and the like, and radio receivers, and is more particularly directed to a method and apparatus for automatically determining whether it is desirable to install or maintain monitoring equipment with respect to a given device.

BACKGROUND OF THE INVENTION

It is generally known that electronic systems are provided for automatically gathering data concerning television viewing habits for such purposes as program ratings, market research and the like. Such systems, some of which are referred to as "tuning people meters", typically include a capability for determining a source, such as a broadcast channel, of the programming reproduced by the television set, as well as the composition of the audience.

As market requirements for such monitoring devices have developed, the gathering of more data, and more complex data, concerning television viewing has been demanded, and it has also been found to be desirable to make the monitoring devices as easy to use, and as transparent to the viewer, as possible. These developments, and the resulting evolution of monitoring equipment, has caused such equipment to become increasingly complex and somewhat expensive.

At the same time, the average number of television sets per household has in general increased. In order to assure accurate data gathering with respect to the viewing habits of members of a household, it has usually been the practice to install a monitor in association with each television set in the household. However, it is believed that in a significant number of households in which monitoring equipment is installed, one or more of the television sets therein are seldom if ever used. In such cases, it would be desirable to avoid installation of a monitor with respect to the little used television set or sets without compromising the accuracy of the television viewing data that is to be gathered for that household.

OBJECTS OF THE INVENTION

It accordingly is an object of the invention to provide a method and apparatus for automatically qualifying signal reproduction devices such as television receivers for installation of monitoring equipment.

It is another object of the invention to minimize the number of sophisticated monitoring devices required for determining television viewing habits in a household.

It is still another object of the invention to provide a convenient method for determining when monitoring equipment should be installed or removed.

SUMMARY OF THE INVENTION

In accordance with one aspect of the present invention, the foregoing objects are met by provision of a method of and system for automatically qualifying a signal reproduction device for installation of monitoring equipment in association therewith, including the steps of automatically sensing when the signal reproduction device is in use, producing data representing a usage amount of the signal reproduction device, and determining whether the signal reproduction device satisfies a predetermined qualification criterion for utilization of the monitoring equipment based upon the data representing the usage amount.

According to a further aspect of the invention, the step of and means for determining includes determining whether said data indicates usage of the signal reproduction device in excess of a predetermined minimum usage criterion. In accordance with another aspect of the invention, the step of and means for producing data includes producing data representing times at which the signal reproduction device is in the use.

According to still a further aspect of the invention, the step of and means for determining includes determining whether the data indicates that usage of the signal reproduction device satisfies a predetermined usage pattern.

According to another aspect of the invention, the method and system include the step of and means for producing a qualification signal indicating whether the signal reproduction device satisfies the predetermined qualification criterion.

According to a further aspect of the invention, the method also includes installing, in association with the signal reproduction device, monitoring equipment including means for monitoring at least one of a source of a signal reproduced by the signal reproduction device and the audience using the signal reproduction device, only if the signal reproduction device satisfies the predetermined qualification criterion. According to a further aspect of the invention, the step of installing the monitoring equipment includes installing the monitoring equipment for monitoring usage of a television receiver.

According to yet another aspect of the invention, the step of carrying out the determination is performed at a centralized data processing facility, the steps of sensing use of the signal reproduction device and producing data are carried out at a location remote from the centralized data processing facility and the method further includes transmitting the data from the remote location to the centralized data processing facility. According to yet another aspect of the invention, the produced data is stored at the remote location prior to transmitting the data.

According to still another aspect of the invention, the sensing of when the signal reproduction device is in use includes sensing the use with a usage sensing device which has a receptacle into which is plugged a power cord of the signal reproduction device and the method further includes transmitting the data over domestic AC power supply lines via an AC receptacle into which the usage sensing device is plugged. According to an alternative aspect of the invention, the method includes transmitting the data over a hardwired signal path to which the usage sensing device is connected.

According to still another aspect of the invention, the means for determining includes a centralized data processing facility and there is provided at the centralized data processing facility means for generating a report concerning the signal reproduction device if the signal reproduction device satisfies the predetermined qualification criterion.

According to still another aspect of the invention, the means for sensing includes a usage sensing device which